

E. G. WATROUS.
LIQUID SOAP FIXTURE.
APPLICATION FILED JULY 22, 1910.

1,082,249.

Patented Dec. 23, 1913.

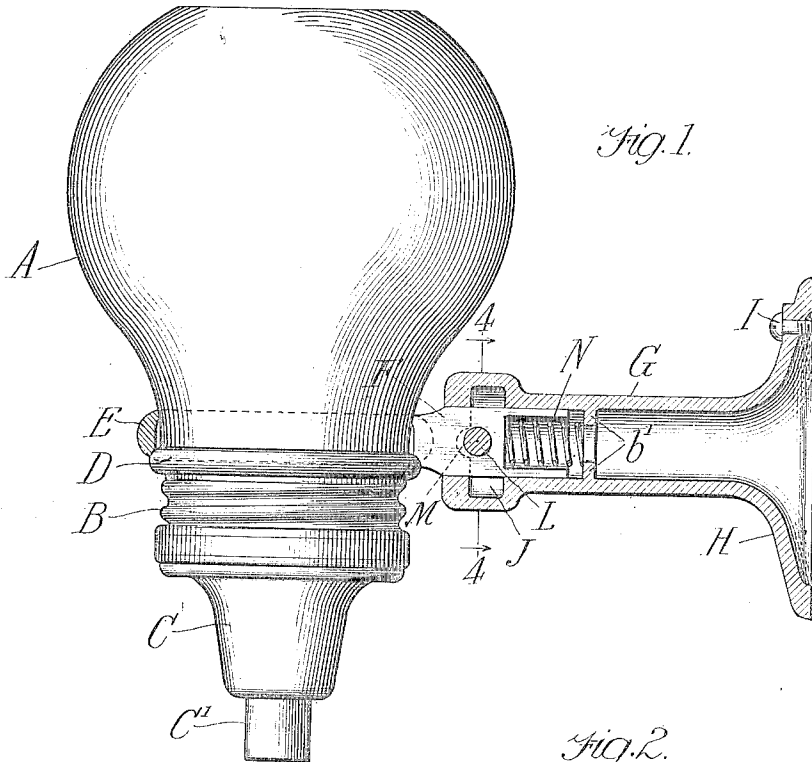


Fig. 1.

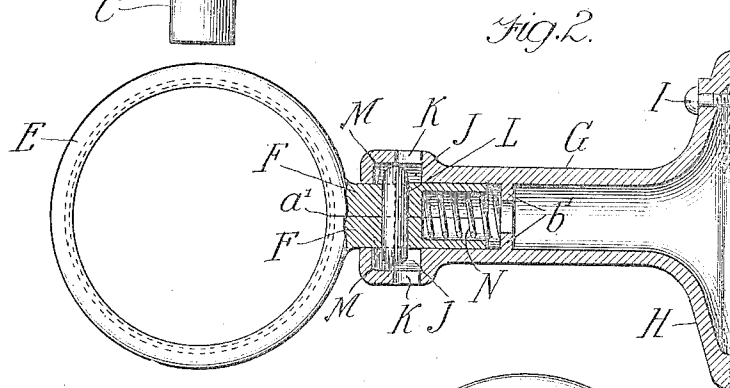


Fig. 2.

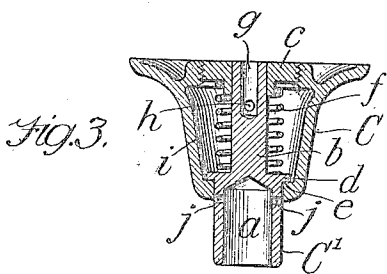


Fig. 3.

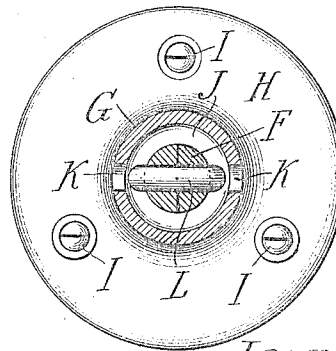


Fig. 4.

Witnesses
Martin H. Olsen.
Robert Dobberman

Inventor
Earl G. Watrous,
By Rector, Hibben, Davis & Macaulley
His Attys

UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

LIQUID-SOAP FIXTURE.

1,082,249.

Specification of Letters Patent.

Patented Dec. 23, 1913.

Application filed July 22, 1910. Serial No. 573,192.

To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Liquid-Soap Fixtures, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention has for its object the provision of a simple and convenient fixture of this character, in which the position of the receptacle for the liquid soap may be readily reversed from its normal inverted position to an upright position when it is to be refilled or is to remain out of use for a time, and in which the receptacle may be automatically locked and yieldingly held in each of its opposite positions when turned thereto.

In the accompanying drawings, Figure 1 is a middle longitudinal vertical section of the fixture, with the receptacle in elevation and in position for use; Fig. 2 a middle horizontal section of the fixture with the supporting ring which surrounds the soap-receptacle shown in top plan; Fig. 3 a sectional detail of the nozzle-piece and discharge nozzle of the receptacle; and Fig. 4 a transverse section through the supporting arm of the fixture on the line 4-4 of Fig. 1.

The same letters of reference are used to indicate identical parts in the several views.

The soap-receptacle A, which may be made of glass, is shown approximately pear-shaped in the present instance, with a smooth imperforate top, and with its reduced lower end provided with external threads upon which is screwed a metal cap-piece B to whose under side is secured (as by soldering) a nozzle-piece C from whose lower end depends the discharge nozzle C', both shown in section in Fig. 3, where it will be seen that said nozzle is composed of an enlarged tubular lower portion *a* fitting and guided in the central opening in the bottom of the nozzle piece C, and a reduced upper portion or stem *b* whose upper end is guided in a central opening in a nut *c* screwed into the threaded central opening of the top of the nozzle piece C. The top of the nozzle piece C and the nut *c* together constitute a diaphragm which when the cap is in place divides the interior of the receptacle A from the interior of the nozzle piece.

The nozzle C' is provided at the upper end of its tubular lower end *a*, within the nozzle-piece C, with a shoulder or flange *d* which rests upon an inturned annular flange or shoulder *e* of the nozzle-piece C, while a coiled spring *f* surrounding the stem *b* of the nozzle and confined between the shoulder at the lower end of the latter and the nut *c* in which its upper end is guided, yieldingly holds the nozzle in its lowermost position. A central bore *g* in the upper end of the stem *b* of the nozzle and lateral ports *h* normally permit free passage of the liquid contents of the receptacle into the chamber *i* surrounding the stem *b* within the nozzle-piece C, but its escape from said chamber is normally prevented by the co-operation of the enlarged tubular lower end of the nozzle and its flange or collar *d* with the lower end of the nozzle-piece C as a valve. When the nozzle C' is lifted, however, the liquid within the chamber is permitted to pass through ports *j* in the side walls of the tubular lower end of the nozzle and discharge through its lower end. The lifting of the nozzle for this purpose carries the ports *h* in the upper end of its stem *b* upward into the guide-way through which the stem passes and thereby closes said ports and cuts off the supply of liquid from the chamber *i*, and inasmuch as the tubular lower end *a* of the nozzle which is moved upward into the chamber *i* is considerably larger than the stem *b* of the nozzle, the liquid contents of the chamber are forcibly displaced by it and caused to pass through the ports *j* and out the discharge end of the nozzle. The construction shown therefore has the two-fold advantage that only a limited quantity of soap will be discharged upon lifting the nozzle to its limit of movement, even though it be held in such elevated position for a time, and that such limited quantity of soap is positively forced out of the chamber *i* when the nozzle is lifted, and its discharge through the nozzle thereby insured.

In the present instance the receptacle A is provided, immediately above the upper end of the screw-threaded portion of the cap-piece B, with a bead D, while immediately above this bead it is surrounded by a split supporting ring E of such shape in cross-section that the upper edge of the ring bears against the sides of the receptacle and its lower edge against the bead D. At the side

where it is split, at a' , Fig. 2, the two opposite portions of the ring are provided with or formed into the semi-cylindrical halves of a swiveled supporting arm F which has its bearing and support in the outer end of a tubular arm G whose inner end is flared into a circular attaching base or flange H adapted to be secured to the wall or other fixed support by screws I passed through it and entering such support, as shown in Figs. 1, 2 and 4. The outer end of the tubular support G is enlarged and has formed within it an annular chamber J provided at the opposite sides of its inner portion with two diametrically opposed apertures K K. The swiveled supporting arm F is also provided with a transverse hole which registers with the apertures K K when said arm is in its innermost position, so as to receive a pin L introduced into it through one or the other of said apertures. This pin L is of sufficient length to project upon opposite sides of the arm F, but is of slightly less length than the internal diameter of the chamber J, so that it may freely turn therein with the arm F. The chamber J is provided in its outer wall with a transverse groove or recess M in which the pin L may fit when the ring E and its arm F are in their outer position, and a coiled spring N confined within the counterbored inner end of the arm F, between the latter and an internal flange or collar b' of the tubular supporting arm G, serves to yieldingly press the arm F and ring E outward and normally maintain the pin L in engagement with the groove M. The pin and groove thus serve to yieldingly lock or hold the soap-receptacle in either of its two vertical positions; that is to say in its normal inverted position for use, shown in the drawings, and in the reversed position to which it may be turned when not needed for use or when it is desired to remove the cap B and re-fill the receptacle. To turn the receptacle from one position to the other it is first pressed inward to the position shown in the drawings, to disengage the pin L from the groove M, whereupon it may be readily swung around a half turn, and the pin L will automatically re-engage the groove M and yieldingly hold the receptacle in such reversed position.

It has heretofore been the usual practice, in liquid-soap fixtures of this general character, to provide the soap-receptacle with a filling opening in its top, as well as with a discharge outlet in its bottom, such opening being normally closed by a screw cap or plug or other suitable closure. With my improved fixture, however, permitting a reversal of the position of the receptacle at any time, I am enabled to dispense with the provision of a special filling opening for it, and to utilize its discharge outlet for re-

filling as well as for discharge purposes. The top of the receptacle is therefore sealed or imperforate which has the advantage among others that leakage of air into the receptacle is absolutely prevented and the loss of soap, that sometimes results therefrom in vessels having an opening in the top for filling or other purposes, is obviated.

The particular construction of receptacle and swiveled support which I have shown are especially suitable and advantageous where the body of the receptacle is made of glass or similar material, but where the receptacle as a whole is made of metal the particular construction I have shown may be materially departed from while still utilizing the broader features of my invention. Where the body of the soap-receptacle is formed of metal, for instance, the supporting ring E of the swiveled support for the receptacle may be readily dispensed with and the arm F be secured to the receptacle by any other suitable means, as by being soldered or welded or riveted directly to the side of the receptacle. I therefore do not intend to limit the scope of my claims to the details of construction which I have illustrated and described, further than may be indicated by the terms of the claims themselves.

What is claimed is:

1. In a liquid-soap fixture, the combination with a soap-receptacle having an imperforate top and a discharge nozzle at its bottom and with the supporting arm G provided in its outer end with the annular chamber J having the locking groove M and the diametrically opposed apertures K K, of the ring E surrounding the receptacle A and having the arm F swiveled in the supporting arm G, the pin L passed through the arm F and cooperating with the groove M, and a spring operating upon the arm to maintain the pin L in yielding engagement with the groove M; substantially as described.

2. In a liquid soap fixture, the combination with a soap receptacle composed of the body portion A having a filling and discharge opening at one end, of the supporting arm G provided at its outer end with the annular chamber J having the groove M and diametrically opposed apertures K K, the ring E surrounding the receptacle A and having a projecting arm F swiveled in the supporting arm G, the pin L passing through the arm F and cooperating with the groove M, and the spring N interposed between the arm F and the supporting arm G and operating to yieldingly maintain the pin L in engagement with the groove M.

3. In a liquid soap fixture, the combination with a soap receptacle comprising the body portion A having a discharge opening at one end and surrounded by the bead

D, of a supporting arm G provided in its outer end with the annular chamber J having the groove M and diametrically opposed apertures K, K, the split ring E surrounding the receptacle A above the bead D and engaged at its lower edge with the latter and provided with the two-part supporting arm F swiveled in the outer end of the supporting arm G, the pin L passed

through the arm F and cooperating with the 10 groove M, and the spring N interposed between the arms F and G and operating to maintain the pin L in yielding engagement with the groove M.

EARL G. WATROUS.

Witnesses:

EDWARD RECTOR,
F. P. DAVIS.